

A multi-channel network monitoring apparatus has input connectors for network signals to be monitored and four channel processors in a rack-mountable chassis/enclosure for receiving and processing a respective pair of incoming signals to produce monitoring results. Each processor operates independently of the others and is replaceable without interrupting their operation. LAN connectors enable onward communication of the monitoring results. A cross-point switch routes each incoming signal to a selected processor and can re-route a channel to another processor in the event of processor outage. Each processor has a self-contained sub-system of processing modules interconnected via a CPU-peripheral interface in a backplane, which provides a separate peripheral interface for each processor. The backplane provides locations for processors to lie horizontally across a major portion of the backplane area facing the front of the enclosure, and a location for an interface module over a minor portion of that area facing the rear, so as to provide external connectors at the rear of the enclosure. A power supply module is positioned over another portion of the backplane area, on the same side as the interface module. The location of the power supply module behind the backplane saves height and/or width in the rack.